Investigation of contamination rate of fleas feeding from dogs infected with visceral leishmaniasis in endemic foci of Kala-azar in Ardabil Province

Abstract

Background: Leishmaniasis is a protozoan disease caused by different species of leishmania and causes a wide range of symptoms. The disease exists in more than 100 countries and Iran is one of the countries where cutaneous leishmaniasis is common. Also visceral leishmaniasis is endemic in the northwest and south of Iran, including the endemic center of Meshkinshahr region in Ardabil province. Visceral leishmaniasis in the Mediterranean region, including Iran, is caused by *Leishmania infantum*. Dogs are the main reservoirs of *Leishmania infantum*, and the main source of infection for sandfly as its vector. Recent studies have shown that *leishmania shagasi* can infect arthropods such as fleas and ticks, but the possibility of transmitting the parasite is still being studied.

Aim: The aim of this study was to investigate the contamination rate of fleas feeding from dogs infected with visceral leishmaniasis in endemic region of Kala-azar in Ardabil province.

Material & Methods: For this study, 100 fleas were isolated from endemic areas of Meshginshahr among dogs infected with visceral leishmaniasis, which had clinical symptoms and their DAT and 39rK tests were positive, and were tested microscopically and PCR-RFLP.

Results: The amastigote forms of leishmainia were seen in three of 100 fleas smear tested by parasitological method. PCR-RFLP results also showed 25 fleas were positive for *Leishmania infantum*.

Conclusion: The infection rate to leishmania among fleas feeding from dogs infected with visceral leishmaniasion is considerable.

Keywords: Visceral leishmaniasis, Ectoparasite, Flea